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TITLE: METHOD OF SYNTHESIZING DIAMOND

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## ABSTRACT:

PURPOSE: To effectively synthesize single crystal diamond without requiring pretreatment and without undergoing the process of forming microcrystal diamond by a method wherein, in the synthesis of the single crystal diamond by temp. difference process, flake-like pyrolytic carbon is used as the carbon source.

CONSTITUTION: In a method of a synthesizing single crystal diamond wherein the diamond is grown from a carbon source onto a seed crystal by a temp. difference process under high temp. and pressure within a diamond stabilizing zone, a flake-like pyrolytic carbon is used as the carbon source. The flake-like pyrolytic carbon for use as the carbon source is obtained from highly concentrated methane, ethane, propane, benzene, acetylene, or other hydrocarbon gas or carbon monoxide by a method wherein, for example, methane is thermally decomposed in a thermal decomposing furnace at a decomposing temp. of about 1800-2000°C and under an interior furnace pressure of about 1-5Torr, deposited on a base material such as graphite sheet and peeled off from the base material.

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